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(54) **PARTIALLY HYDROLYZED CASEIN-WHEY NUTRITIONAL COMPOSITIONS FOR REDUCING THE ONSET OF ALLERGIES**

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CPC ***A23L 1/296*** (2013.01); ***A23J 3/343*** (2013.01); ***A23L 1/3053*** (2013.01); ***A23L 1/3056*** (2013.01); ***A61K 35/745*** (2013.01); ***A61K 35/747*** (2013.01); ***A61K 38/018*** (2013.01); *A23V 2002/00* (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,670,268	A	6/1987	Mahmoud	
5,032,399	A	7/1991	Gorbach et al.	
5,374,567	A	12/1994	Cartagena	
5,397,591	A	3/1995	Kyle et al.	
5,550,156	A	8/1996	Kyle	
7,618,669	B2 *	11/2009	Rangavajla et al.	426/583
8,075,934	B2 *	12/2011	Banavara et al.	426/72
8,137,718	B2 *	3/2012	Russell et al.	426/61
2006/0286252	A1	12/2006	Rangavajla et al.	
2012/0172288	A1 *	7/2012	Wittke	A23L 1/296 514/2.5

FOREIGN PATENT DOCUMENTS

EP	0631731	1/1995
EP	1264838	12/2002
EP	2436389	4/2012
WO	2006130200	12/2006
WO	2010079039	7/2010

OTHER PUBLICATIONS

Grummer-Strawn et al. 'Infant Feeding and Feeding Transitions During the First Year of Life.' Pediatrics 122:S36-S42, 2008.*

Colloff et al. 'Distribution and abundance of dust mites within homes.' Allergy 53(Suppl 48):24-27, 1998.*

Sporik et al. 'Exposure to house dust mite allergen (*Der p* l) and the development of asthma in childhood.' N Engl J Med. 323:502-507, 1990.*

Halken, S. et al. "Comparison of a partially hydrolyzed infant formula with two extensively hydrolyzed formulas for allergy prevention: A prospective, randomized study," Pediatr Allergy Immunol. 2000: 11: 149-161.

Ling, J., et al. "Perspectives on Interactions Between Lactoferrin and Bacteria" Biochem Cell Biol. 84: 275-281 (2006).

Scalabrin, D., et al. "Growth and Tolerance of Healthy Term Infants Receiving Hydrolyzed Infant Formulas Supplemented With Lactobacillus rhamnosus GG: Randomized, Double-Blind, Controlled Trial," Clinical Pediatrics, vol. 48, No. 7, pp. 734-744, Sep. 2009.

Scalabrin, D., et al., "Infants Fed an Extensively Hydrolyzed Formula with Docosahexaenoic Acid (DHA), Arachidonic Acid (ARA), and Lactobacillus GG (LGG) Grow Normally." Abstract only. May 2008.

Scalabrin, D., et al., "Influence of Lactobacillus GG supplementation of partially and extensively hydrolyzed formulas on Infant long-chain polyunsaturated fatty acid status." Abstract only. 2008.

Scalabrin, D., et al., "Status of long-chain polyunsaturated fatty acids in infants receiving partially and extensively hydrolyzed formulas supplemented with Lactobacillus rhamnosus GG." Presented at: World Congress of Pediatric Gastroenterology, Hepatology and Nutrition; Aug. 20, 2008; Iguassu falls, Brazil. Abstract P0834.

Scholtens, P., et al., "Fecal Secretory Immunoglobulin A is Increased in Healthy Infants Who Receive a Formula with Short-Chain Galacto-Oligosaccharides and Long-Chain Fructo-Oligosaccharides1,2," J. Nutr. 138: 1141-1147 (2008).

(Continued)

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(57) **ABSTRACT**

The present disclosure relates to methods of reducing the onset of allergies. In certain embodiments, the method includes administering to an infant a nutritional composition that includes a fat or lipid source, a carbohydrate source, a protein source comprising whey and casein proteins and, optionally, a probiotic. In certain embodiments, the whey: casein ratio in the protein source is from about 50:50 to about 70:30 and the degree of hydrolysis of the proteins included in the protein source is from about 4% to about 10%.

20 Claims, No Drawings